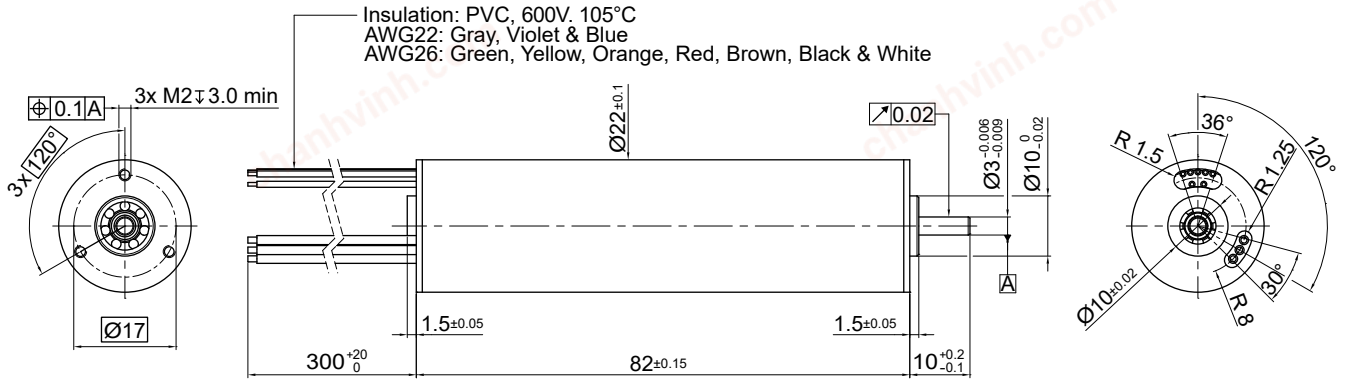
chanhvinh.com

Brushless DC Slotless Motors

Portescap

22ECT82 Ultra EC™

Ø 22 mm • 4-pole • 104 W



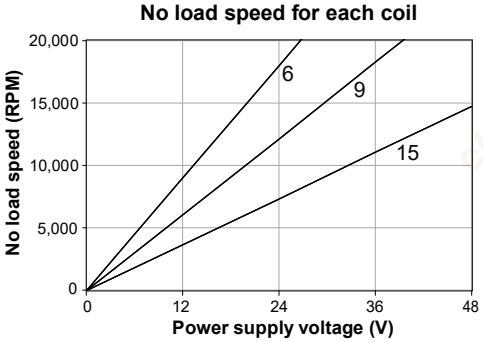
Dimensions in mm.

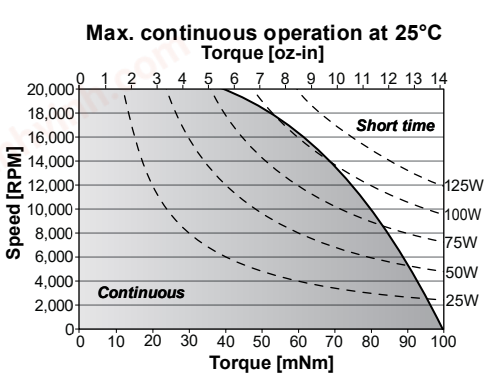
Electrical Data	Symbol	22ECT82 10B-xxx.01 6	9	15	Unit
1 Nominal Voltage	U_N	24	24	24	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	18,550	12,390	7,800	rpm
4 Typical No Load Current	I_0	435	250	130	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	104	104	104	W
6 Max. Continuous Current	$I_{e\,max}$	7.9	5.3	3.2	A
7 Max. Continuous Torque	$M_{e\,max}$	98.4 (13.94)	98.8 (14)	98.3 (13.92)	mNm (oz-in)
8 Back EMF Constant	k_E	1.30	1.96	3.22	V/1000 rpm
9 Torque Constant	k_M	12.4	18.7	30.8	mNm/A
10 Motor Regulation	R/k^2	0.8	0.8	0.8	10^3/Nms
11 Motor Regulation	$k/R^{½}$	35.8 (5.1)	35.9 (5.1)	36 (5.1)	mNm/W^{½} (oz-in/W^{½})
12 Internal Resistance - phase to phase	R_l	0.13	0.27	0.73	ohms
13 Line to Line Resistance at Connectors	R_L	0.16	0.30	0.76	ohms
14 Inductance Phase to Phase	L	0.02	0.03	0.09	mH
15 Mechanical Time Constant	τ_m	1.1	1.0	1.0	ms
16 Electrical Time Constant	τ_e	0.12	0.13	0.13	ms

General Data			
17 Maximum Motor Speed	n_{max}	20,000	rpm
18 Ambient Working Temperature Range	-	-30 to + 100 (-22 to + 212)	°C (°F)
19 Ambient Storage Temperature Range	-	-40 to + 100 (-40 to + 212)	°C (°F)
20 Ball Bearings Preload	-	6.8	N
21 Axial Static Force w/o Shaft Support (max)	-	45.0	N
22 Maximum Winding Temperature	-	125 (257)	°C (°F)
23 Thermal Resistance	R_{th}	1.4 / 8.2	°C/W
24 Thermal Time Constant	τ_w	1,140	s
25 Weight	-	174 (6.14)	g (oz)
26 Rotor Inertia	J	13.17	g-cm^2
27 Hall Sensor Electrical Phasing*	-	120	Electrical °

*Available without hall sensor

Wire	Description
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	3.5 to 24V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3
Black	NTC 10 kohm
White	NTC 10 kohm
with hall effect sensor	





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